

EPC Perspective and Approach to Safety in Plot Plan and Facility Siting

Presenters

Sanjay Ganjam (Chief Engineer, Chemical Process Safety), et al., Kiewit Oil, Gas and Chemical Engineering

Event

19th Global Congress on Process Safety by AIChE - 2023

Abstract

Facility Siting involves laying out of process units and equipment with the objective of managing the risk associated with hazardous materials. Under 29CFR1910.119 OSHA regulation requires conducting a facility siting to minimize potential impact to personnel and public. In this presentation we present Engineering, Procurement and Construction (EPC) perspective and approach to safety in plot plan development and facility siting, factors that are of importance and priority, timing of development of plot plan are also presented.

During different phases of the project design information is available to different extents. Different methodologies for facility sitting study are used based on available design information such as equipment distance tables, consequence-based methods and risk-based methods. The equipment distance table is usually used at an early design phase to give conservative spacing distance between the equipment. For the consequence or risk-based methods, the siting study results can provide design accident loads such as blast overpressure and thermal radiation loads for each occupied building or major/critical equipment whose failure can cause escalation. This presentation in detail will introduce these three methodologies with project examples.